

**STUDY OF  
1982 EFFECTIVE TAX RATES OF  
SELECTED LARGE U.S. CORPORATIONS**

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**PREPARED BY THE STAFF  
OF THE  
JOINT COMMITTEE ON TAXATION**



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## LETTER REQUESTING STUDY

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CONGRESS OF THE UNITED STATES,  
HOUSE OF REPRESENTATIVES,  
*Washington, D.C., April 14, 1983.*

Mr. DAVID H. BROCKWAY,  
*Chief of Staff, Joint Committee on Taxation,  
Longworth House Office Building,  
Washington, D.C.*

DEAR MR. BROCKWAY: We are requesting this year another study of effective tax rates for U.S. corporations.

Last year's study was excellent, and this year we are looking forward to having statistics on an industry-by-industry basis covering a longer period on which to base our conclusions.

We would appreciate receiving information on three different tax rates: (1) U.S. taxes on U.S. income; (2) foreign taxes on foreign income; and (3) worldwide taxes on worldwide income.

Thank you for your superior work and cooperation.

Sincerely,

DON J. PEASE.  
BYRON L. DORGAN.



# PEASE-DORGAN CORPORATE TAX RATE STUDY

## INTRODUCTION

This study presents 1982 effective corporate income tax rates, by industry. It is based on the annual reports of selected large corporations within each industry. It includes a comparison of 1982 effective tax rates with prior years' rates. Effective tax rates, the ratios of income tax expense to income before tax, are computed for each company studied; the industry rate is then computed from the weighted average of the tax rates for the companies within the industry.

In annual financial statements corporations disclose net income before tax, income tax expense, and net income after tax. The income tax expense (or provision for taxes) is separated into two parts—current and deferred. Current income tax expense represents taxes currently payable on book income; deferred income tax expense is treated as a current year's expense for financial reporting purposes, but it represents a liability for taxes which will be payable in some future year, or years. Deferred taxes generally result from differences in the timing of income recognition or deductions allowed under the rules for computing book income and those for computing taxable income. Cost recovery deductions for equipment are an example of such an item.

In this study, tax rates are computed by comparing reported current tax expense with net income before tax. This approach differs from other studies which compute effective tax rates from tax returns by matching the taxes paid with the income on which the tax is imposed. The difference between these approaches arises because income is not necessarily reported on financial statements in the same period as the taxes imposed on that income. Because this study compares current tax expense with net income before tax as reported to shareholders, it does not address the complex problems that arise when taxes paid are matched with the income on which the tax is imposed.

Taxes paid are measured by current tax expense rather than by the total provision for taxes because deferred taxes often roll over from one year to the next, and in a period of growth or inflation are paid, if ever, in the distant future. The actual burden of each dollar of deferred tax liability, therefore, is less than actual burden of each dollar of current tax liability and will depend upon the period of deferral and prevailing interest rates. In effect, by assuming that deferred taxes represent zero tax liability, the true tax burden is understated to the extent that the present value of the deferred tax liability is positive (i.e., to the extent that some tax will be paid in the future). Primarily because of this treatment of deferred taxes, the tax rates in this study differ from those in corporate financial statements or from studies of effective tax rates computed from published data which exclude no, or only a portion,



of deferred taxes from the measure of taxes used to compute the tax rate.

Where data to separate foreign and domestic earnings are available, a foreign tax rate on foreign income and a U.S. rate on U.S. income is computed in addition to the worldwide rate on worldwide income.

In some instances an effective tax rate is not shown for an industry because, for a number of reasons, the rate may be misleading. Generally, rates are not shown when there is an aggregate book loss or when rates are clearly abnormal.

This report covers 213 companies selected from the Fortune 500 Industrials and the Fortune Service 500. Industrials are grouped, generally, by the Standard Industrial Classification Code numbers (SIC Codes). Each company is included in the industry or service group which represents the greatest volume of sales for that company; the companies are, in most cases, the largest companies in the industry. A few exceptions to this method of selection and classification of companies were made this year to provide additional groupings that we consider useful (e.g., mining and construction).

A brief summary of the methodology follows in Part I, with a more detailed discussion of the methodology in Appendix A. The corporations included in each industry group are listed in Appendix B.

Part II of the study is a discussion of the results of the study, and includes six tables of data. Worldwide, U.S. and foreign income tax rates for 1982 are shown in Table 1. Table 2 shows the 1980, 1981, and 1982 U.S. income tax rates and a 3-year rate (1980-1982) for those industries where the data are available. Table 3 shows the equivalent worldwide income tax rates for 1980 through 1982. Table 4 shows average effective tax rates for all companies for the period 1980 through 1982. Table 5 shows a comparison of effective tax rates computed from annual reports with effective tax rates computed from income tax return data. Table 6 shows Federal Government receipts, by category, for the period 1950-1982.

This study was prepared at the request of Congressmen Don J. Pease (Ohio) and Byron L. Dorgan (North Dakota) by the staff of the Joint Committee on Taxation, with the assistance of staff from the General Accounting Office.<sup>1</sup>

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<sup>1</sup> In 1981, a Corporate Tax Study was prepared by the Joint Committee staff at the request of Congressmen Pease and Dorgan (henceforth called the 1981 Pease-Dorgan Study). 128 Cong. Rec., H 10545, 153—Part II (daily ed. Dec. 20, 1982) (Remarks by Rep. Pease).



## I. METHODOLOGY

In general, this study compares current income tax expense with net income before taxes as reported in financial statements. To provide a better basis for comparing the tax rates of different industries, however, some adjustments are made to reported income and income tax expense. These adjustments are outlined below. A technical discussion of the methodology is included in Appendix A.

### *Adjustments*

#### *1. Consolidation of subsidiaries*

Net income per financial statements is adjusted to include the income or loss attributable to minority interests.

#### *2. Equity accounting for investments in affiliates and joint ventures*

Typically, the parent corporation's provision for income taxes does not include the tax attributable to the parent's equity in the net income or loss of the affiliate or joint venture. In this case, the equity income or loss is eliminated from the net income of the parent.

#### *3. Extraordinary items and discontinued operations*

The profit or loss from extraordinary items and discontinued operations, which is reported separately, is excluded from income; similarly the current tax expense (or savings) attributable to extraordinary items or discontinued operations is excluded from the total current tax expense.

#### *4. Securities transactions (banks only)*

Net income or loss is adjusted to reflect the profit or loss on securities transactions, which is reported separately; similarly the current income taxes attributable to the profit or loss on securities transactions are aggregated with current taxes on normal operations.

#### *5. State taxes*

Income is reduced by the current portion of State or local income tax expense. The current income tax expense is adjusted to eliminate the current portion of State or local income tax expense.

### *Computation of tax rates*

Tax rates are computed by dividing the adjusted worldwide, foreign and U.S. current income tax expense by adjusted worldwide, foreign and U.S. income before tax, respectively. For those companies which do not disclose foreign earnings from their foreign operations, only the rate of worldwide tax on worldwide income is de-

terminable. If, however, it seems reasonable to assume that income from foreign operations is minimal, then all income is treated as U.S. income.<sup>1</sup>

Companies with losses are included in the aggregate tax rates because, in some cases, current tax expense is positive even when there is a book loss, and this tax expense should be reflected in the industry's total tax burden. This method of aggregation differs from the method used by the staff in 1981 when loss companies were excluded from the computation of aggregate rates. The tax rates for 1980 and 1981 (as shown in tables 2, 3 and 5) have been restated to reflect this change in method.

In some circumstances effective tax rates are not shown because they may be misleading. First, the sign (positive or negative) of the rate could misrepresent the underlying situation. Usually a positive rate means a tax expense and a negative rate a tax refund. But positive or negative rates can arise in other situations. For example, when there is a book loss and current tax expense is negative, the effective tax rate would be positive and, therefore, would appear to be the same as when there is a positive tax expense on book income. Similarly, negative tax rates arise from two quite different situations. On the one hand, current tax expense may be negative (i.e., a refund is due) even though book income is positive. This situation arises, generally, when carrybacks of credits earned in the current year result in income tax refunds. On the other hand, current tax expense may be positive even though book income is negative (i.e., there is a book loss). Typically, this situation arises when timing differences result in positive taxable income despite a book loss or when tax accounting rules are more restrictive than book accounting rules. Therefore, to prevent misunderstanding of what the rate means, when there is a book loss for an industry, and either a refund is due (positive rate) or there is positive tax (negative rate), effective rates are not shown.

Next, the U.S. and foreign rates could be distorted if the method of allocating income between U.S. and foreign sources differs substantially from the income tax methods of allocation. Foreign currency adjustments and the inclusion of taxes other than creditable foreign taxes in financial statements could also distort the foreign rate. Abnormally high tax rates for an industry are indicative of such distortion and, therefore, are not shown.

Finally, for industries whose results are dominated by a few large companies, some of which have losses or refunds due, the rate may not be representative of the industry. In these circumstances, also, the rate is not shown.

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<sup>1</sup>This methodology differs from that used by the staff in similar studies in previous years. In 1981, if foreign tax was disclosed but the amount of foreign income was not disclosed, the company was excluded from the aggregate foreign rate and the U.S. rate. In a few cases (e.g., petroleum), this treatment resulted in large companies being excluded from the U.S. and foreign rates. In tables 2, 3 and 5, 1980 and 1981 U.S. rates have been restated from those published in the 1981 Pease-Dorgan Study to include companies where it is reasonable to assume that foreign operations are minimal.

## II. COMPARISON OF EFFECTIVE TAX RATES

### *1982 effective tax rates by industry*

The corporations included in this study have an average worldwide tax rate of 29.6 percent in 1982, a U.S. tax rate of 16.1 percent, and a foreign tax rate of 55.0 percent (Table 1).

The worldwide tax rates on worldwide income vary widely among industries from negative 2.5 percent for insurance companies to 59.6 percent for rubber companies. Four industries have effective tax rates of less than 10 percent (aerospace, insurance, telecommunications, and railroads).

The telecommunications industry, which has more than 10 percent of total worldwide income and a very low worldwide rate (2.3 percent), has a particularly significant impact on the aggregate rate. This group is dominated by AT&T, which by itself has more than 10 percent of aggregate worldwide income and which has a low effective rate.<sup>1</sup> If just this one company, AT&T, is excluded from the sample, the average worldwide rate for all remaining companies would increase from 29.6 percent to 32.8 percent and the U.S. rate would increase from 16.1 percent to 18.9 percent. There are, of course, other large companies, particularly in the petroleum industry, that have a significant impact on the weighted average rate. But since none of these have an abnormally low rate, they do not, individually, affect the aggregate as much as AT&T.

The unusually high rate of 59.6 percent for rubber companies can be explained partially by the method of aggregation used this year. Companies with a positive tax expense are included in the totals even if they incur a book loss. This method increases the effective tax rate for the group and may result in apparently abnormal rates in any one year; but despite the potential for distortion over a short period, this method provides a better measure of the tax burden for the industry over longer periods of time. If loss companies were excluded from the group, the rubber industry rate would be less unusual, 46.2 percent, rather than 59.6 percent. (The U.S. rate would be 26.9 percent rather than 39.0 percent.) Another reason for the high rates in this group are book losses with no related tax benefit. For example, the effective tax rate for Firestone,

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<sup>1</sup> The California Public Utilities Commission ordered certain utilities, including a subsidiary of AT&T, to pay refunds to consumers, thereby rendering the utilities ineligible for accelerated depreciation and investment tax credits. In December 1982, Congress enacted legislation to clarify the eligibility for these tax benefits and to require tax payments based on amounts refunded to consumers. The net effect of recognizing the reestablished eligibility and the required tax payment was to reduce current tax expense by \$885.2 million in 1982. Because of the size and unusual nature of this adjustment, the current tax expense used to compute the effective tax rate excluded this adjustment (i.e., current tax expense as reported was increased by \$885.2 million). GTE was also affected by this legislation, but the tax expense was not adjusted because the amount applicable to the current rather than the total provision was not available.



as shown in the annual report, is increased by 104.4 percentage points by such losses.

Insurance companies were included in diversified financials in the 1981 Pease-Dorgan study but are separated into a new group in 1982. This group of companies does not necessarily represent the whole insurance industry, however, for two principal reasons. First, many of the largest insurance companies are mutual, rather than stock, companies which do not publish comparable data. Second, like other industries in this study, the insurance industry is represented by a small sample of companies: five companies that represent less than 15 percent of total companies in the insurance industry based upon asset size.

Not only is the rate computation difficult because of the differences between stock and mutual companies, it is complicated further by differences in types of insurance. Life insurance products are different from property and casualty insurance products, and quite different tax rules apply. For tax purposes, life insurance reserve deductions are based on the discounted value of future claims, whereas property and casualty reserve deductions are taken at the undiscounted cost of future payments. In addition, life companies must treat certain amounts credited to policyholders as being funded proportionately out of taxable and tax-exempt income, whereas property and casualty companies get the full benefit of tax-exempt income. As a result, property and casualty companies tend to generate tax losses which are used to offset the life insurance companies' taxable income in consolidated returns. Furthermore, because many of the largest life insurance companies are mutuals and are therefore excluded from this study, the effective tax rates are more heavily weighted by the property and casualty component of the insurance industry.

The negative current tax provision (a refund due) for the insurance group is due in part to Aetna's and Transamerica's negative provisions for tax. Reasons for the negative provision, as disclosed in Aetna's annual reports, include carrybacks of investment tax credits and capital losses to prior years, and a book adjustment for the taxes of unconsolidated subsidiaries. Consolidation of life insurance taxable income with property and casualty losses contribute to Transamerica's large negative current provision. Thus, even though all life insurance companies paid approximately \$2 billion in taxes in 1982, it is not inconsistent that this study reflects a low (or negative) rate due to the effects of consolidation with property and casualty companies, carryovers and the exclusion of mutual companies.

The U.S. income tax rates on U.S. income vary between negative 17.7 percent for chemicals to 39.0 percent for rubber. Seven industries had effective tax rates of less than 10 percent (aerospace, broadcasting, chemicals, financial institutions, insurance, telecommunications, and railroads).

Industries which show a book loss (worldwide and U.S.), for the companies included in the sample, include metal manufacturing, mining, motor vehicles, and airlines. While motor vehicles incurred a book loss, the group had a positive worldwide tax expense, primarily due to substantial foreign tax expense.

The U.S. rates are almost all lower than the worldwide rates—some significantly lower. For example, chemicals have a 47.3 percent worldwide rate but a negative 17.7 percent U.S. rate. Financial institutions have a 24.3 worldwide rate but a negative 3.8 percent U.S. rate. The reasons for the large differences in rates between the worldwide rate and the U.S. rate have not been analyzed for particular industries. However, extensive foreign operations, with the utilization of foreign tax credits, appear to result in a low U.S. rate relative to the worldwide rate. Both the chemical industry and financial institutions derived more than 75 percent of their worldwide income from foreign sources.

Industry groups include companies whose greatest volume of sales lie within that group. Often a company included in one industry group has substantial activities in one or more other groups. Hence the tax rates for an industry reflect the effects of tax rules relating to other, often quite different, industries. For example, Sears is included in the retail industry because more of its sales income is from retailing than from insurance or financial services.<sup>2</sup> But because of the special tax provisions that apply to insurance, Sears' effective tax rate is lower than it would be if Sears were a retailer only. In addition, because Sears is so large, the weighted average for the whole retail group is substantially lower than it would be without Sears' insurance operations. It is not possible, generally, to calculate a separate effective tax rate for separate activities within one company; therefore, we cannot calculate Sears' rate for retailing alone to eliminate the effect of insurance tax provisions on the "retail" rate. But the effective worldwide rate for retailers computed by excluding Sears is 27.1 percent—5.5 percentage points higher than the rate shown (21.6 percent including Sears). The U.S. rate for retailers is 26.1 percent without Sears compared to 20.4 percent with Sears in the group. It seems reasonable to assume that most of the difference in rates is due to Sears' insurance and other activities.

Typically, corporations file a consolidated income tax return with any wholly owned finance subsidiary, even when, under the accounting rules, the finance subsidiary is not included on consolidated financial statements. If a finance subsidiary generates significant tax benefits (e.g., from leasing), the tax expense as reflected in the parent's financial statements may be misleading; the tax expense on the consolidated tax return would be much lower. In this study, equity in the net earnings of wholly owned subsidiaries is eliminated from the parents' income, i.e., neither the income nor tax expense of the subsidiary is included in the tax rate computation. Because this treatment may be misleading in cases where the tax rate for the subsidiary is significantly different from the rate for the parent, it would be desirable to compute a combined rate for the parent and subsidiary. The pre-tax income of the subsidiary would be added to the income of the parent, and the current tax expense of the subsidiary would be added to the tax expense of the parent. The financial statements of the subsidiary are needed, however, to compute this combined rate. A combined rate was computed only

<sup>2</sup> If companies were classified by net income, rather than gross sales, Sears would be classified as an insurance company.



when, from other information, it was clear that the subsidiary generated significant tax benefits, and when the financial statements were available. Thus, a combined rate may not have been computed in all cases where it was appropriate. A combined rate was computed for General Electric (GE) because of the significant tax benefits generated by GE's wholly owned subsidiary, General Electric Credit Corporation (GECC). As a result, GE's worldwide and U.S. rate in 1982 was reduced by over 20 percentage points by including GECC.

### *U.S. and worldwide tax rates, 1980-1982*

Tables 2 and 3 show U.S. and worldwide rates, respectively, for the period 1980 through 1982. There is no consistent pattern of change in the tax rates over the period 1980 through 1982 for all industries. Some industry rates remain fairly constant, such as the financial institutions' worldwide rate (22.5 percent, 24.5 percent, and 24.3 percent for 1980, 1981, and 1982, respectively). The rates for other industries change substantially from year to year. For example, the U.S. rate for chemicals went from 13.7 percent in 1980, to 5.0 percent in 1981, to negative 17.7 percent in 1982.

By aggregating the income and taxes for the 3-year period, the effect of factors which tend to distort the rates in any one year are reduced (e.g., an unusual loss in a large company may distort the aggregate rate in one year, while it may not have a significant effect on the 3-year rate). Three-year rates are not available for all of the industries studied in 1982 because some new industries were added to the study in 1982 and other companies were grouped differently from the prior years. The meaning of such aggregate data, moreover, is obscured by the fact that the tax law was changed, in significant respects, during the 3-year period. Also, different companies were included in the industry group in different years, which could cause the data to present a misleading indication of the true trend.

Of the industries for which data are available, railroads have the lowest worldwide rate of 2 percent for the period 1980-82, and trucking has the highest worldwide rate of 40.9 percent. Paper and wood products have the lowest, and only negative, U.S. rate (3.5 percent) for the 3-year period, while the highest U.S. rate is 40.3 percent for trucking. Five out of the 17 industries for which prior years' data are available had U.S. rates of less than 10 percent (aerospace, chemicals, financial institutions, paper and wood products, and railroads).

### *Average effective tax rates, 1980-1982*

Table 4 shows the average effective tax rates for all companies for 1980, 1981, and 1982. The U.S. rate on U.S. income declined from 21.8 percent in 1980 to 17.2 percent in 1981 and 16.1 percent in 1982. The worldwide rate declined from 34.3 percent in 1980 to 29.6 percent in 1981, but remained at the same level (29.6 percent) in 1982. These data should be interpreted cautiously as indicators of a true trend, since different companies were included in the data for different years.

### *Tax return vs. annual report tax rates, 1980*

The effective tax rates in this study are computed for only a small number of the largest companies in selected industries. Do these rates fairly represent the Federal income tax burden of each industry given the problems in computing effective tax rates from financial statements? In order to shed some light on this question, an effort was made to compare the rates computed in this study with tax return data.

Solely for purposes of determining whether the effective tax rates in this study approximate the actual rate paid by an industry, an effective tax rate was computed for a few industries from the *Corporation Statistics of Income* data for 1980 (the most recent year available). The rate was computed by comparing U.S. tax liability plus foreign taxes paid (a measure of worldwide tax expense) with net income per books plus the provision for Federal income taxes (worldwide income). These rates differ from effective tax rates computed from annual reports in several important respects. Probably the biggest difference is that the tax return measure of "taxes paid" does not reflect any refunds. Another important difference is that net income per books is often not reported on the return, and even if reported is often incorrect.<sup>3</sup> Also, the consolidation rules for tax purposes are different from the accounting rules, so the taxable entity may not be the same as the financial statement entity. The final difference is that rates from income tax returns are computed only for firms with positive after-tax income and positive tax liability.

Table 5 shows a comparison of the effective tax rates based on annual reports with the effective tax rates based on tax return data. Some of the rates computed by the two different methods are remarkably similar. For example, rates which differ by less than 1 percentage point include petroleum and coal products, which have a rate of 43.9 percent on tax returns compared with a 44.7 percent worldwide rate computed from 1980 annual reports.<sup>4</sup> Electric, gas, and sanitary services have a rate of 10.7 percent on tax returns compared with 10.9 percent for gas and electric utilities on financial statements.<sup>5</sup> Instruments and related products have a rate of 41.5 percent on tax returns compared with 40.7 percent in this study.

Several other rates differ by 5 percentage points or less. For example, general merchandise stores have a rate of 31.5 percent on tax returns compared with 30.3 percent for retailers on financial statements; food products' rate is 32.9 percent on tax returns compared with a rate of 37.6 percent for food processors on financial statements; the electric and electronic equipment industry rate is 32.5 percent on tax returns compared with electronics, appliances' rate of 27.5 percent on financial statements.

<sup>3</sup> Firms that reported zero after-tax book income are excluded.

<sup>4</sup> 1980 rates computed from annual reports are as shown in Table 3.

<sup>5</sup> The Edison Electric Institute prepares a "combined" income statement for over 100 investor-owned electric utilities. Effective tax rates computed from the current tax expense and book income shown on the combined statements are 8.9 percent in 1980, 10.2 percent in 1981, and 13.7 percent in 1982—rates that are all within 2 percent of the rates in this study and the income tax return rate in 1980.



Some rates differ by larger margins. The rate for banking on tax returns is 15.4 percent compared with a 22.5 percent rate for financial institutions (this group includes only commercial banks) on financial statements. The rate for tobacco manufacturers is 45.2 percent on tax returns rather than 29.9 percent on financial statements for the tobacco group in this study.

Any comparison of rates computed for different samples using different methods must be used with caution. Flaws become more apparent when the rates for an industry are quite different under the two methods. For example, paper and allied products have a rate of 29.6 percent computed from the tax return data, but only a 7.0 percent rate computed from annual reports. While this may be due to refunds reflected in the annual report rate but not in the tax return rate, the difference needs explaining—and this is not possible without much more analysis.

Even though this comparison of rates computed from tax return data with rates computed from annual reports is inexact, one industry's tax rate relative to other industries' rates is generally the same under both methods. For example, utilities and banks pay lower rates of tax than the retailers or instrument companies. Thus, the rate computed from tax return data does provide support for the relative industry rates computed from annual reports in this study.

### *Trends in U.S. corporate taxes as percentage of Government receipts*

Effective tax rates in this study are computed for only a small number of large companies, and aggregate rates are only available for 1980, 1981, and 1982. U.S. tax rates for these companies declined over this period. Does this decline in rates represent fairly an overall decline in the corporate Federal income tax burden? In an effort to answer this question, at least partially, the trend in rates based on this study is compared with the trend in corporate taxes as a percentage of Federal Government receipts.

Table 6 shows Federal Government receipts for the period 1950 through 1982 by category—individual, corporate, indirect, and social security—as a percentage of total receipts. Receipts are measured on a national income accounts (NIA) basis, rather than the more usual unified budget basis, because the NIA basis uses accruals of corporate taxes instead of cash payments and is, therefore, more closely comparable to this study. Corporate taxes have declined steadily over the period from 28.3 percent of total receipts in 1950 to only 8.1 percent in 1982. Meanwhile, individual taxes have increased from 39.2 percent in 1950 to 49.0 percent in 1982, and contributions for social insurance have increased more rapidly from 13.1 percent in 1950 to 34.7 percent in 1982. If contributions for social insurance are excluded, receipts from personal taxes are 75 percent, corporate taxes 12.4 percent, and indirect taxes 12.6 percent of the total.

It appears that the decline in the effective rate of the Federal corporate income tax has contributed to the reduced contribution of this tax to total Federal receipts.

Table 1.—Comparison of Corporate Income Tax Rates by Industry, 1982

Industry	Thousands of dollars				Tax rate (percent)				
	U.S. income before tax	Foreign income before tax	Worldwide income before tax	Current U.S. tax expense	Current foreign tax expense	Current worldwide tax expense	U.S. tax rate on U.S. income	Foreign tax rate on foreign income	World- wide tax rate on world- wide income
Aerospace .....	2,295,141	416,243	2,711,384	(13,956)	207,505	193,549	(0.6)	49.9	7.1
Beverages .....	1,590,612	674,107	2,264,719	325,463	327,565	653,028	20.5	48.6	28.8
Broadcasting .....	784,065	123,101	907,166	69,760	54,472	124,232	8.9	44.2	13.7
Chemicals .....	1,191,400	3,832,800	5,024,200	(210,800)	2,584,900	2,374,100	(17.7)	67.4	47.3
Computers and office equip- ment .....	5,790,319	4,199,219	9,989,538	1,525,913	2,179,158	3,705,071	26.4	51.9	37.1
Construction.....	335,747	219,682	555,429	53,422	72,093	125,515	15.9	32.8	22.6
Electronics, appliances.....	4,329,753	1,820,752	6,150,505	617,199	698,067	1,315,266	14.3	38.3	21.4
Financial institutions.....	1,413,187	4,150,181	5,563,368	(54,137)	1,405,018	1,350,881	(3.8)	33.9	24.3
Food processors .....	2,412,720	966,581	3,379,301	761,940	469,818	1,231,758	31.6	48.6	36.5
Glass and concrete.....	(6,490)	201,897	195,407	(35,036)	69,986	34,950	(1)	34.7	17.9
Instruments .....	2,723,646	960,978	3,684,624	597,515	394,711	992,226	21.9	41.1	26.9
Insurance.....	1,339,534	32,000	1,371,534	(83,851)	49,161	(34,690)	(6.3)	(1)	(2.5)
Investment companies .....	1,155,762	531,800	1,687,562	246,512	146,886	393,398	21.3	27.6	23.3
Metal manufacturing .....	(1,882,979)	70,200	(1,812,779)	(200,793)	70,200	(130,593)	(1)	(1)	(1)
Metal products .....	458,132	230,096	688,228	138,400	156,270	294,670	30.2	67.9	42.8
Mining.....	(345,543)	29,007	(316,536)	(43,714)	33,450	(10,264)	(1)	(1)	(1)
Motor vehicles .....	(1,488,894)	543,967	(944,927)	(289,621)	525,187	235,566	(1)	(1)	(1)
Paper and wood products .....	301,318	27,887	329,205	108,857	30,900	139,757	36.1	(1)	42.5
Petroleum refining .....	21,433,352	17,854,717	39,288,069	3,907,484	11,091,783	14,999,267	18.2	62.1	38.2
Pharmaceuticals.....	1,854,573	1,420,600	3,275,173	606,446	646,997	1,253,443	32.7	45.5	38.3
Retailing .....	3,418,987	206,761	3,625,748	699,044	85,874	784,918	20.4	41.5	21.6
Rubber .....	260,645	195,144	455,789	101,569	169,970	271,539	39.0	(1)	59.6
Soaps and cosmetics .....	1,929,911	578,135	2,508,046	641,835	310,106	951,941	33.3	53.6	38.0
Telecommunications .....	13,328,971	184,399	13,513,370	211,292	105,723	317,015	1.6	57.3	2.3
Tobacco .....	2,674,142	687,453	3,361,595	970,884	128,139	1,099,023	36.3	18.6	32.7

Table 1.—Comparison of Corporate Income Tax Rates by Industry, 1982—Continued

Industry	Thousands of dollars				Tax rate (percent)				
	U.S. income before tax	Foreign income before tax	Worldwide income before tax	Current U.S. tax expense	Current foreign tax expense	Current worldwide tax expense	U.S. tax rate on U.S. income	Foreign tax rate on foreign income	World- wide tax rate on world- wide income
Transportation:									
Airlines .....	(619,492)	(123,160)	(742,652)	(48,428)	23,034	(25,394)	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Railroads .....	1,689,859	.....	1,689,859	68,523	.....	68,523	4.1	.....	4.1
Trucking .....	837,646	4,495	842,141	309,310	4,308	313,618	36.9	( <sup>1</sup> )	37.2
Utilities (electric and gas) .....	5,502,269	.....	5,502,269	859,214	.....	859,214	15.6	.....	15.6
Wholesalers .....	911,570	96,354	1,007,924	329,319	14,019	343,338	36.1	14.5	34.1
Average, All Companies ...	75,619,863	40,135,396	115,755,259	12,169,565	22,055,300	34,224,865	16.1	55.0	29.6

<sup>1</sup> Rate not computed. See Part I: "Methodology—Computation of Tax Rates."

**Table 2.—Comparison of U.S. Income Tax Rate on U.S. Income by Industry 1980-82**

[In percent]

Industry <sup>1</sup>	1980	1981	1982	1980-82 Average
Aerospace.....	16.4	6.8	(0.6)	7.7
Beverages.....	28.0	28.8	20.5	25.1
Chemicals .....	13.7	5.0	(17.7)	4.3
Computers and office equipment....	24.9	25.3	26.4	25.6
Electronics, appliances.....	24.5	17.1	14.3	18.7
Financial institutions .....	5.8	2.7	(3.8)	2.7
Food processors.....	35.6	26.8	31.6	31.2
Instrument companies.....	37.1	26.6	21.9	28.6
Metal manufacturing .....	15.3	10.2	( <sup>2</sup> )	13.0
Paper and wood products.....	(1.4)	(14.2)	36.1	(3.5)
Petroleum <sup>3</sup> .....	31.1	21.7	18.2	24.1
Pharmaceuticals.....	39.2	35.9	32.7	35.6
Retailing .....	34.1	22.3	20.4	24.8
Tobacco.....	31.4	31.3	36.3	33.1
Transportation:				
Airlines.....	3.0	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Railroads.....	10.7	(7.5)	4.1	2.0
Trucking.....	37.5	46.1	36.9	40.3
Utilities (electric and gas) <sup>4</sup> .....	10.9	10.3	15.6	12.5

<sup>1</sup> An industry is included in this table only if substantially the same companies are included in the sample each year.

<sup>2</sup> Rate not computed on book loss. See Part I: "Methodology—Computation of Tax Rates."

<sup>3</sup> Some companies included in the 1982 group were classified with crude oil production in 1980 and 1981.

<sup>4</sup> In the 1981 Pease-Dorgan Study, the utilities group included AT&T and GTE. The 1980 and 1981 utilities rates in this study are restated to include only electric and gas utilities.



**Table 3.—Comparison of Worldwide Income Tax Rate on  
Worldwide Income by Industry 1980-82 Average**

[In percent]

Industry <sup>1</sup>	1980	1981	1982	1980-82 Average
Aerospace.....	20.3	12.0	7.1	13.3
Beverages.....	32.7	33.2	28.8	31.5
Chemicals .....	30.3	29.2	47.3	35.3
Computers and office equipment..	36.9	39.1	37.1	37.6
Electronics, appliances.....	27.5	24.0	21.4	24.4
Financial institutions.....	22.5	24.5	24.3	23.7
Food processors.....	37.6	32.6	36.5	35.5
Instrument companies.....	40.7	29.4	26.9	32.6
Metal manufacturing .....	18.5	11.5	( <sup>2</sup> )	17.6
Paper and wood products.....	7.0	(8.7)	42.5	3.3
Petroleum <sup>3</sup> .....	44.7	38.0	38.2	40.6
Pharmaceuticals.....	41.5	41.3	38.3	40.2
Retailing .....	35.1	24.5	21.6	26.3
Tobacco.....	29.9	29.5	32.7	30.7
Transportation:				
Airlines.....	14.5	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Railroads.....	10.7	(7.5)	4.1	2.0
Trucking.....	38.4	46.9	37.2	40.9
Utilities (electric and gas) <sup>4</sup> ...	10.9	10.3	15.6	12.5

<sup>1</sup> An industry is included in this table only if substantially the same companies are included in the sample each year.

<sup>2</sup> Rate not computed on book loss. See Part I: "Methodology—Computation of Tax Rates."

<sup>3</sup> Some companies included in the 1982 group were classified with crude oil production in 1980 and 1981.

<sup>4</sup> In the 1981 Pease-Dorgan Study, the utilities group included AT&T and GTE. The 1980 and 1981 utilities rates in this study are restated to include only electric and gas utilities.

**Table 4.—Comparison of Average Effective Corporate Income Tax Rates, 1980-82**

[In percent]

	1980 <sup>1</sup>	1981 <sup>1</sup>	1982
U.S. rate on U.S. income.....	21.8	17.2	16.1
Foreign rate on foreign income .....	52.0	55.3	55.0
Worldwide rate on worldwide income .....	34.3	29.6	29.6

<sup>1</sup> Average rates for 1980 and 1981 are computed from total income and expense for the companies included in the 1981 study. To the extent that different aggregation methods were used in 1981 (the 1980 and 1981 industry rates were not restated for purposes of the above average rates), these rates may not be exactly comparable with the 1982 rates. It is unlikely, however, that the change in methodology results in any significant change in the aggregate rates.

**Table 5.—Comparison of Effective Worldwide Tax Rates, 1980: Tax Return vs. Annual Report**

[In percent]

Industry <sup>1</sup>	Effective worldwide tax rate	
	Tax return basis	Annual report basis
Chemical .....	33.9	30.3
Electronics, appliances .....	32.5	27.5
Financial institutions .....	15.4	22.5
Food processors.....	32.9	37.6
Instruments.....	41.5	40.7
Paper and wood products.....	29.6	7.0
Petroleum .....	43.9	44.7
Retailers.....	31.5	35.1
Tobacco.....	45.2	29.9
Utilities (electric and gas).....	10.7	10.9

<sup>1</sup> Industry groups are described in *Corporation Statistics of Income* data as follows: chemicals and allied products, electric and electronic equipment, banking, food and kindred products, instruments and related products, paper and allied products, petroleum (including integrated) and coal products, general merchandise stores, tobacco manufacturers, and electric, gas, and sanitary services.

**Table 6.—Federal Government Receipts, 1950–82, by Major Category, as Percent of Total Receipts <sup>1</sup>**

Fiscal year	Personal tax and nontax receipts	Corporate profits tax accruals	Indirect business tax and nontax accruals	Contributions for social insurance
1950.....	39.2	28.3	19.5	13.1
1952.....	44.2	29.6	14.9	11.2
1954.....	46.0	26.3	15.8	11.9
1956.....	44.4	27.9	14.3	13.5
1958.....	46.5	22.9	14.9	15.7
1960.....	44.9	23.5	13.9	17.6
1962.....	45.4	21.8	13.6	19.1
1964.....	43.9	22.2	13.5	20.4
1966.....	43.3	23.2	11.7	21.8
1968.....	44.7	20.7	10.7	24.0
1970.....	48.2	16.9	9.9	25.0
1972.....	47.1	16.0	9.3	27.6
1974.....	45.2	16.0	7.9	31.0
1976.....	43.6	16.7	7.7	32.1
1978.....	45.0	16.2	6.6	32.2
1980.....	47.6	13.3	6.6	32.4
1981.....	47.5	11.5	9.1	31.9
1982.....	49.0	8.1	8.2	34.7

<sup>1</sup> Components may not total 100 percent due to rounding.

Source: Based on the Economic Report of the President, 1970 and 1983.



### III. APPENDICES

#### Appendix A: Technical Discussion of Methodology

Included in this section is a discussion of the background of accounting for income taxes and effective tax rates. This is followed by a discussion of several technical points, some of which are the basis for adjustments to published data for purposes of computing effective tax rates.

#### Background

One definition of a corporation's "effective tax rate" is simply the income tax it owes in a particular year divided by its income for that year. The Securities and Exchange Commission requires that corporations include in their annual reports a reconciliation between their actual effective tax rate and the maximum statutory corporate tax rate (now 46 percent).<sup>1</sup> Because data from corporate income tax returns are only available several years after the taxable year for which the returns are filed and returns of individual companies are confidential, the annual reports present the most up-to-date and accessible evidence on corporate effective tax rates. However, a number of problems arise in using these data for this purpose. These are discussed below.

The differences between the tax and financial accounting rules, and tax credits, account for the difference between effective tax rates and the statutory rate.<sup>2</sup> Some of these differences are referred to as timing differences, which will reverse in a future period, and others are permanent differences, which will not reverse.

Permanent differences arise from statutory provisions under which specified revenues are exempt from taxation, deductions are allowed for tax purposes for items not counted as expenses for book accounting purposes, and specified expenses (for book purposes) are not allowable as deductions in determining taxable income. An example of a permanent difference is the interest received on municipal bonds, which is included in income for book purposes but excluded for tax purposes. Another example is the 15-percent reduction in the deduction for interest on debt incurred to purchase or carry tax-exempt securities by financial institutions. Other permanent differences arise from items entering into the determination of taxable income which are not taken into account in computing pretax accounting income in any period. Examples include the de-

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<sup>1</sup> APB Opinion No. 11 recommends that significant differences between pretax accounting income and taxable income be disclosed. The Securities and Exchange Commission formalized this rule to require a reconciliation of the effective tax rate to the statutory rate (Rule 17, CFR 210.4-08(h)). In addition, any timing difference that is 5 percent or more of total timing differences is generally disclosed separately.

<sup>2</sup> Generally, the rules for accounting for income taxes are described in APB Opinion No. 11, as amended.

duction for intercorporate dividends received and the excess of percentage depletion over cost depletion. Another type of permanent difference is a tax credit.

Timing differences arise from differences between the periods in which transactions affect taxable income and the periods in which they enter into the determination of pretax accounting income. Each timing difference originates in one period and reverses in one or more subsequent periods. For example, depreciation may be reported on an accelerated basis for tax purposes but on a straight-line basis for accounting purposes. Gross profits on installment sales are recognized for accounting purposes in the period of sale, but are reported for tax purposes in the period the installments are collected.

The accounting recognition of the tax effects of timing differences is based on the concept of interperiod tax allocation.<sup>3</sup> Under this concept, the provision for income taxes on the financial statement for a given year includes all the tax effects of the revenue and expense transactions included in the determination of pretax accounting income for that year. Thus, the total tax expense for the year is the statutory rate times income before tax, plus or minus whatever adjustments are needed to allow for permanent differences. Some portion of this expense is due currently under the tax law while the rest will be due in the future. The portion that is due currently is termed "current tax expense," and the portion that will be due in the future is termed "deferred tax expense."<sup>4</sup>

In financial statements, an effective tax rate is computed by comparing the provision for income taxes (current and deferred) with net income before tax. This effective tax rate is reconciled to the statutory rate by identifying the permanent differences which give rise to the differences in rates.

## Methodology

Effective tax rates can be computed from data published in annual reports using various methodologies regarding the appropriate measurement of "taxes paid" and "income." It is important to note that there has been a good deal of controversy about just what methodology is appropriate for this purpose and that the resulting effective tax rate measures can vary markedly.

In this study, the effective tax rates are computed by comparing current tax expense with book income. While these amounts are readily available from the annual reports, some adjustments are appropriate. This section discusses several technical problems, some of which are the basis for these adjustments.

<sup>3</sup> The concept of comprehensive interperiod tax allocation (APB Opinion No. 11, *Accounting for Income Taxes*) is currently being reevaluated by the accounting profession. One of several options under consideration is to use the current taxes payable with the tax return as a measure of tax expense for the financial statements (i.e. to eliminate the concept of deferred taxes). See Discussion Memorandum, *An Analysis of Issues Related to Accounting for Income Taxes*, Financial Accounting Standards Board, August 29, 1983.

<sup>4</sup> Deferred tax expense can be negative, which will be the case whenever book accounting principles require that expenses be deducted prior to the time they are deductible for tax purposes or income reported later than the time it is included for tax purposes. Current tax expense can also be negative, which will be the case when carrybacks result in income tax refunds.

### *Consolidation of Subsidiaries*

For financial statement purposes, companies generally consolidate subsidiaries that are more than 50 percent owned, including foreign subsidiaries. For Federal income tax purposes, however, generally only domestic subsidiaries that are 80 percent or more owned are eligible to be included in a consolidated income tax return. Thus, the taxable entity and the financial statement entity upon which this study is based may not be the same.

In financial statements, the entire Federal income tax expense of all consolidated subsidiaries is reported as though it were an income tax or refund wholly attributable to the majority interest of the consolidated group. However, the minority interest in the subsidiaries' income or loss (perhaps as much as 49 percent) is eliminated net of tax. Thus, the consolidated financial statements often show the total tax expense of subsidiaries that may be only 51 percent owned, while eliminating the after-tax income attributable to the minority interest.

To compensate for this, the net income per financial statements is adjusted to reverse the elimination of the income or loss attributable to the minority interest.

### *Equity Accounting for Investments in Affiliates and Joint Ventures*

Generally, investments in affiliates (20 to 50 percent owned companies) and joint ventures are accounted for by the equity method. This method produces the same net income as does the consolidation method, but through a different technique. Under the equity method, the parent corporation's proportionate share of the after-tax earnings of the affiliate or joint venture is shown as a single item in the income statement. In a consolidation, on the other hand, all income and expense accounts of the subsidiary are combined with those of the parent, and the minority interest is eliminated as a single item.

Under the equity method the parent corporation's provision for income taxes generally does not include the tax attributable to the parent's equity in the net income or loss of the affiliate or joint venture. If the equity earnings are reported in this manner, the equity income or loss is eliminated from net income of the parent.

Sometimes the pre-tax equity income is included in income of the parent and the related taxes are included in the parent's tax provision. Usually this occurs where the parent owns more than an 80 percent interest in the equity company, but is not consolidating it for some other reason. If equity earnings are reported in this manner, no adjustment is needed.

### *Overstating the Provision for Federal Income Taxes*

Corporations may overstate the accrued Federal income tax liability, and thus overstate the provision for taxes, to provide a "cushion" for potential increases in tax liability resulting from Internal Revenue Service examinations. Typically, any cushion is reflected in the deferred rather than the current provision. A tax rate computed from the current provision only would not normally be distorted, therefore, by the cushion. Because the amount of cushion in current tax expense cannot be determined from public



information sources, it is not possible to adjust for any overstatement. However, the effect of any cushion on the effective tax rates computed in this study is probably minimal.

### ***Intraperiod Tax Allocation***

Under this accounting technique, the effect of taxes on the various sections of the income statement is shown separately in each section. For example, the tax expense or savings attributable to extraordinary items or discontinued operations is shown separately from that which is attributable to normal operations. Similarly, for banks, securities transactions are generally shown separately. Occasionally, the extraordinary item is recognized for financial statement purposes in a period different than that for tax purposes, which causes interperiod and intraperiod tax allocation rules to operate together.

For purposes of this study, the profit or loss from extraordinary items and discontinued operations which is reported separately is excluded from income, and the related tax is excluded from tax expense. On the other hand, the current portion of taxes that relate to securities transactions for banks are aggregated with the current tax expense which relates to normal operations.

### ***Investment Tax Credit***

Investment tax credits pertaining to lease financing are frequently recognized over the recovery period of the lease investment, and are amortized to lease income. For purposes of computing the tax rates, income should be reduced by the amortized investment tax credit, and current tax expense should also be reduced. But it is not possible to make this adjustment in every case because the amount of investment tax credit amortized to lease income is not always disclosed. Since the adjustment cannot be made consistently in every case where it is appropriate, no adjustment is made to income or tax expense for these amounts. Generally, this would result in a slightly higher tax rate than if the adjustment were made.

### ***Current Income Tax Expense***

#### ***Adjustments to prior years' estimates***

The current tax provision normally represents the tax estimated to be shown on the return to be filed. But the current provision for each year may be adjusted by the over or under-estimation of the prior year's current provision. To the extent of the current and prior year errors in estimation, the current income tax provision does not represent the actual current tax expense as it would be calculated on a strict accrual basis. The effect of these errors in estimation on the effective tax rates computed in this study is probably minimal, however.

#### ***Carryovers from prior years***

Current tax expense reflects not only the tax payable on the current year's operations, but also the utilization of certain carryovers. For example, when carrybacks of net operating losses are

utilized, the current provision is reduced to reflect the net operating loss carryback. Similarly the use of other types of carrybacks and carryforwards, such as the investment tax credit, capital loss, research and development credit, etc., flows through the current tax provision. In contrast, when carryforwards of net operating losses are utilized the benefit is shown as an extraordinary item. Since extraordinary items are not included in this study, the current year's tax rate would not be affected by the carryforward of a net operating loss. To the extent that the effect of carryovers is included in the current provision, however, the effective tax rate may not represent the tax burden applicable to the current year's operations.

### *Worldwide Operations*

#### *Allocation of income between U.S. and foreign sources*

The allocation of income between U.S. and foreign sources is based on information disclosed in the companies' financial statements. Effective for fiscal years beginning after December 15, 1976, Financial Accounting Standards Board Statement No. 14 requires certain disclosures relating to foreign operations. The SEC also requires similar information to be disclosed.

Uniform methods of allocating income between U.S. and foreign sources have not been developed for financial reporting purposes, and corporate administrative, capital and product development costs are subject to arbitrary allocation methods. It is possible that the allocation methods used by some companies in their financial statements are quite different from the allocation methods required under the tax rules. Also, even when income is allocated between U.S. and foreign sources in a manner consistent with the U.S. tax rules, the allocation may be inconsistent with foreign tax rules. Consequently, the U.S. and foreign rates may be distorted by the methods of allocation. Nevertheless, to the extent the allocations are reasonably consistent with the tax allocations, the information is useful in analyzing the effective income tax burden of multinational corporations.

Most companies allocate to foreign source income the unrealized foreign currency exchange gains and losses recognized under FASB Statement No. 8. Net exchange gains typically decrease the current effective tax rate and net exchange losses typically increase the effective tax rate because these amounts may not be reflected in foreign source taxable income. Some companies report high effective foreign tax rates (perhaps in excess of 100 percent) because of the recognition of such losses for financial reporting purposes.

Under FASB Statement No. 52, some foreign currency translation adjustments are not included in net income. Although FASB Statement No. 52 is effective for fiscal years beginning on or after December 15, 1982, some companies adopted this treatment of foreign currency gains and losses in 1981. In this study no attempt has been made to evaluate the effect on tax rates of this change in the accounting rules.

***Potential overstatement of U.S. tax on U.S. income***

The estimated rate of U.S. tax on U.S. income may be overstated to the extent that some portion of the U.S. tax is actually attributable to foreign earnings. This will occur when the foreign tax paid on foreign earnings is less than the U.S. tax on those earnings, so that even after utilization of the foreign tax as a credit against U.S. tax, an incremental U.S. tax is payable on the foreign earnings. Although it is not possible to adjust accurately for this potential overstatement on the basis of publicly available information, the effect on industry rates is unlikely to be material.

## **Appendix B: Companies Included in Industry Groups for Tax Rate Study**

### ***Aerospace (SIC Code No. 41)***

Boeing  
General Dynamics  
Lockheed  
McDonnell Douglas  
Rockwell International  
Signal Companies  
United Technologies

### ***Beverages (SIC Code No. 49)***

Anheuser-Busch  
Coca-Cola  
Heublein  
Pepsico  
Joseph E. Seagram & Sons

### ***Broadcasting***

American Broadcasting  
CBS  
Metromedia  
RCA

### ***Chemicals (SIC Code No. 28)***

Allied Corp.  
Dow Chemical  
E.I. DuPont de Nemours  
W.R. Grace  
Monsanto  
Union Carbide

### ***Computers and Office Equipment (SIC Code No. 44)***

Burroughs  
Control Data  
Digital Equipment  
Hewlett-Packard  
Honeywell  
International Business Machines  
Sperry

### ***Construction***

Centex  
Combustion Engineering  
Fluor  
Koppers  
U.S. Home



***Electronics, Appliances (SIC Code No. 36)***

General Electric  
 International Telephone & Telegraph  
 Litton Industries  
 Motorola  
 Raytheon  
 Texas Instruments  
 Warner Communications  
 Western Electric  
 Westinghouse Electric

***Financial Institutions***

Bank America Corp.  
 Bankers Trust New York Corp.  
 Chase Manhattan Corp.  
 Chemical New York Corp.  
 Citicorp  
 Continental Illinois Corp.  
 Crocker National Corp.  
 First Chicago Corp.  
 First Interstate Bancorp.  
 First National Boston Corp.  
 Interfirst Corp.  
 Irving Bank Corp.  
 Manufacturers Hanover Corp.  
 Marine Midland Banks  
 Mellon National Corp.  
 J.P. Morgan & Co.  
 Northwest Bancorp.  
 Security Pacific Corp.  
 Texas Commerce Bancshares  
 Wells Fargo & Co.

***Food Processors (SIC Code No. 20)***

Beatrice Foods  
 Borden  
 Consolidated Foods  
 CPC International  
 Dart & Kraft  
 General Foods  
 General Mills  
 Greyhound  
 IC Industries  
 Nabisco Brands  
 Ralston Purina  
 United Brands

***Glass, Concrete, Abrasives, and Gypsum (SIC Code No. 32)***

Corning Glass Works  
 Manville  
 Owens-Corning Fiberglass  
 Owens-Illinois  
 PPG Industries

***Instrument Companies (SIC Code No. 38)***

Eastman Kodak  
 General Signal  
 Lear Siegler  
 3M  
 Xerox

***Insurance***

Aetna Life & Casualty  
 Cigna  
 Lincoln National  
 Transamerica  
 Travelers

***Investment Companies***

American Express  
 First Boston  
 Merrill Lynch  
 Phibro-Salomon

***Metal Manufacturing (SIC Code No. 33)***

Aluminum Co. of America  
 Armco  
 Bethlehem Steel  
 LTV  
 National Steel

***Metal Products (SIC Code No. 34)***

American Can  
 Continental Group  
 Crown Cork & Seal  
 Gillette  
 McDermott

***Mining***

Amax  
 Freeport-McMoran  
 Newmont Mining  
 North American Coal  
 Phelps-Dodge  
 Vulcan  
 Westmoreland Coal

***Motor Vehicles (SIC Code No. 40)***

Bendix  
 Chrysler  
 Ford Motor  
 General Motors  
 International Harvester  
 TRW

***Paper and Wood Products (SIC Code No. 26)***

Champion International  
 Crown Zellerbach  
 Georgia-Pacific  
 International Paper  
 Weyerhaeuser

***Petroleum (SIC Code Nos. 29 and 10)***

Amerada Hess  
 Ashland Oil  
 Atlantic Richfield  
 Charter  
 Coastal  
 Exxon  
 Getty Oil  
 Gulf Oil  
 Louisiana Land and Exploration  
 Kerr-McGee  
 Mobil  
 Natomas  
 Occidental Petroleum  
 Phillips Petroleum  
 Shell Oil  
 Standard Oil of California  
 Standard Oil (Indiana)  
 Standard Oil (Ohio)  
 Sun  
 Superior Oil  
 Tenneco  
 Texaco  
 Union Oil  
 Union Pacific

***Pharmaceuticals (SIC Code No. 42)***

American Home Products  
 Bristol-Myers  
 Johnson & Johnson  
 Pfizer  
 Warner-Lambert

***Retailing***

American Stores  
 Federated Department Stores  
 Household International  
 K Mart  
 Kroger  
 Lucky Stores  
 J.C. Penney  
 Safeway Stores  
 Sears Roebuck  
 Winn-Dixie Stores

***Rubber (SIC Code No. 30)***

Firestone  
 General Tire & Rubber  
 B.F. Goodrich  
 Goodyear  
 Uniroyal

***Soaps and Cosmetics (SIC Code No. 43)***

Avon Products  
 Cheeseborough-Pond's  
 Colgate-Palmolive  
 Proctor and Gamble  
 Revlon

***Telecommunications***

AT&T  
 Continental Telecom  
 GTE  
 United Telecommunications

***Tobacco (SIC Code No. 21)***

American Brands  
 Phillip Morris  
 R.J. Reynolds Industries

***Transportation—Airlines***

American Airlines  
 Delta Air Lines  
 Eastern Air Lines  
 Northwest Airlines  
 Pan American World Airways  
 Tiger International  
 Trans World  
 United Airlines

***Transportation—Railroads***

Burlington Northern  
 CSX  
 Norfolk Southern  
 Santa Fe Industries  
 Southern Pacific

***Transportation—Trucking***

Consolidated Freightways  
 Leaseway Transportation  
 Roadway Services  
 United Parcel Service  
 Yellow Freight System

***Utilities (Electric & Gas)***

American Electric Power  
Commonwealth Edison  
Middle South Utilities  
Pacific Gas & Electric  
Public Service Electric & Gas  
Southern California Edison  
Southern Company  
Texas Utilities

***Wholesalers***

Alco Standard  
American Hospital Supply  
Amfac  
Avnet  
Fleming Companies  
Foremost-McKesson  
Genuine Parts  
Super Valu Stores  
Sysco

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